

translation

PATENT COOPERATION TREATY

PCT/JP2003/015914



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference FP347-PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/015914	International filing date (day/month/year) 11 December 2003 (11.12.2003)	Priority date (day/month/year) 12 December 2002 (12.12.2002)
International Patent Classification (IPC) or national classification and IPC A61L 27/00, 27/36		
Applicant JAPAN, as represented by THE PRESIDENT of NATIONAL CARDIOVASCULAR CENTER		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 22 March 2004 (22.03.2004)	Date of completion of this report 14 October 2004 (14.10.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/015914

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☐ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/15914

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	2, 8, 9	YES
	Claims	1, 3-7	NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

**2. Citations and explanations (Rule 70.7)**

Document 1: JP 04-288165 A (Terumo Corp.) October 13, 1992

Document 2: JO 00/35374 A1 (AV HEALING LLC) June 22, 2000

Document 1 cited in the international search report describes the combined use of treatment of a portion of human or animal tissue with a solution containing a multifunctional group such as glutaraldehyde, etc., and with microwave radiation (see claim 1). Document 1 also discloses that with the exposure to microwave radiation the solution containing a multifunctional group can instantaneously and uniformly permeate into the tissue (see Par. No. 0016), that crosslinking treatment can be performed in a short time (see Par. No. 0017), and that the temperature of the glutaraldehyde solution can be set at 20 to 60°C (see Par. No. 0025).

Document 2 describes ultrasonic treatment in water for a sufficient time when removing cellular components from tissues (see page 12, lines 8 to 13).

**oClaims 1 and 3-7**

Document 1 describes the inventions of claims 1 and 3-7, and therefore these inventions lack novelty and an inventive step.

**oClaims 2, 8, and 9**

Documents 1 and 2 do not describe the inventions of claims 2, 8, and 9, and therefore these inventions are novel.

The inventions of the above claims in this application specify exposure to microwaves in the treatment to remove cellular components from biological tissue, but because document 1 states that the solution instantaneously and uniformly permeates into the tissue due to treatment with microwaves, this examination finds that persons skilled in the art can easily perform microwave treatment in place of ultrasound treatment in the invention described in document 2 with the expectation of obtaining the same effect.

In addition, this examination finds that no particular advantage is obtained thereby.

As a result, the inventions of claims 2, 8, and 9 do not involve an inventive step with respect to documents 1 and 2.